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In the Claims

Claims 1-38 remain in the application as are listed below:

1. (Previously Presented) A system for synchronizing a visualization with audio samples comprising:

one or more audio sources configured to provide audio samples that are to be rendered by a media player;

an audio sample pre-processor communicatively linked with the one or more audio sources and configured to receive and pre-process audio samples before the samples are rendered, the pre-processing providing characterizing data associated with each sample, wherein the characterizing data is derived from the audio samples; and

one or more effects configured to receive the characterizing data and use the characterizing data to render a visualization that is synchronized with an audio sample that is being rendered by the media player.

2. (Original) The system of claim 1 further comprising multiple data structures configured to hold the characterizing data, each data structure being associated with an audio sample.

3. (Original) The system of claim 2, wherein the audio sample pre-processor is configured to maintain the data structures.

1 4. (Original) The system of claim 2, wherein the audio sample pre-
2 processor comprises a timestamp module that provides a timestamp for each audio
3 sample, each timestamp being maintained by a data structure associated with the
4 audio sample.

5
6 5. (Original) The system of claim 4, wherein the timestamp is assigned
7 by the timestamp module based upon when the audio sample is calculated to be
8 rendered by the media player.

9
10 6. (Original) The system of claim 4, wherein the audio sample pre-
11 processor is configured to:

12 query a media player audio sample renderer for a time associated with an
13 audio sample that is being currently rendered, and

14 use the time to ascertain a timestamp of an associated audio sample, the
15 audio sample pre-processor further being configured to provide characterizing data
16 of the associated audio sample so that the characterizing data can be used to render
17 the visualization.

18
19 7. (Original) The system of claim 1, wherein said characterizing data
20 comprises frequency data.

21
22 8. (Original) The system of claim 1, wherein said audio sample pre-
23 processor comprises a Fast Fourier Transform that it utilizes to process the audio
24 samples to provide frequency data associated with the audio samples.

1 9. (Previously Presented) A media player comprising:

2 an audio sample pre-processor configured to receive and pre-process audio
3 samples before the samples are rendered by the media player, the pre-processing
4 providing frequency data associated with each sample, wherein the frequency data
5 is derived from the audio samples; and

6 one or more effects configured to receive the frequency data and use the
7 frequency data to render a visualization that is synchronized with an audio sample
8 that is being rendered by the media player.

9
10 10. (Original) The media player of claim 9 further comprising multiple
11 data structures configured to hold the frequency data, each data structure being
12 associated with an audio sample.

13
14 11. (Original) The media player of claim 10, wherein the audio sample
15 pre-processor comprises a timestamp module that provides a timestamp for each
16 audio sample, each timestamp being maintained by a data structure associated with
17 the audio sample, and further wherein the audio sample pre-processor is
18 configured to:

19 query a media player audio sample renderer for a time associated with an
20 audio sample that is being currently rendered, and

21 use the time to ascertain a timestamp of an associated audio sample, the
22 audio sample pre-processor further being configured to provide frequency data of
23 the associated audio sample to the one or more effects so that the frequency data
24 can be used to render the visualization.

1 12. (Original) The media player of claim 9, wherein the audio sample
2 pre-processor pre-processes the audio samples by using a Fast Fourier Transform
3 to provide the frequency data.

4
5 13. (Previously Presented) A system for synchronizing a visualization
6 with audio samples comprising:

7 an audio sample pre-processor configured to receive and preprocess audio
8 samples before the samples are rendered by a renderer that comprises part of a
9 media player, the audio sample preprocessor preprocessing the samples to provide
10 characterizing data derived from each sample, the characterizing data comprising a
11 timestamp associated with each audio sample, the timestamp being assigned in
12 accordance with when the audio sample is calculated to be rendered by the
13 renderer;

14 multiple data structures configured to hold the characterizing data, each
15 data structure being associated with an audio sample;

16 an audio rendering object configured to call the audio sample pre-processor
17 to ascertain the characterizing data associated with an audio sample that is
18 currently being rendered by the renderer;

19 the audio sample pre-processor being configured to ascertain said
20 characterizing data by querying the renderer for a time associated with the
21 currently-rendered audio sample, and then using said time to identify a data
22 structure having a timestamp that is nearest in value to said time; and

23 one or more effects configured to receive characterizing data that is
24 associated with the data structure having the timestamp that is nearest in value to
25

1 said time, and use the characterizing data to render a visualization that is
2 synchronized with the audio sample that is being rendered by the renderer.

3
4 14. (Original) The system of claim 13, wherein the characterizing data
5 comprises frequency data.

6
7 15. (Original) The system of claim 13, wherein the audio sample pre-
8 processor comprises a Fast Fourier Transform that it utilizes to process the audio
9 samples to provide frequency data associated with the audio samples.

10
11 16. (Original) The system of claim 13, wherein the visualization is
12 rendered in a rendering area in which other media types can be rendered.

13
14 17. (Original) The system of claim 16, wherein the other media types
15 comprise a video type.

16
17 18. (Original) The system of claim 16, wherein the other media types
18 comprise a skin type.

19
20 19. (Original) The system of claim 16, wherein the other media types
21 comprise a HTML type.

22
23 20. (Previously Presented) The system of claim 16, wherein the other
24 media types comprise an animation type.

1 21. (Previously Presented) A system for processing audio samples
2 comprising:

3 a timestamp module for assigning timestamps to audio samples that are to
4 be rendered by a media player renderer;

5 a spectrum analyzer for processing the audio samples to derive frequency
6 data from the audio samples;

7 multiple data structures each of which being associated with an audio
8 sample, the data structures each containing timestamp data and frequency data for
9 its associated audio sample; and

10 the system being configured to use the timestamp data to ascertain a data
11 structure associated with an audio sample that is currently being rendered by the
12 media player renderer and provide the frequency data associated with that audio
13 sample so that the frequency data can be used to render a visualization associated
14 with that audio sample.

15
16 22. (Original) The system of claim 21, wherein the spectrum analyzer
17 comprises a Fast Fourier Transform that is utilized to provide the frequency data.

18
19 23. (Previously Presented) A method of providing a visualization
20 comprising:

21 receiving multiple audio samples;

22 pre-processing the audio samples before they are rendered by a media
23 player renderer, the pre-processing deriving characterizing data from each sample;

24 determining when an audio sample is being rendered by the media player
25 renderer; and

1 responsive to said determining, using the characterizing data that is
2 associated with the audio sample that is being rendered to provide a visualization.

3
4 24. (Original) The method of claim 23 further comprising maintaining
5 characterizing data for each audio sample in a data structure associated with each
6 audio sample.

7
8 25. (Original) The method of claim 24, wherein the characterizing data
9 comprises a timestamp associated with the audio sample, the timestamp being
10 provided based upon when the audio sample is calculated to be rendered by the
11 media player renderer.

12
13 26. (Original) The method of claim 25, wherein said determining
14 comprises:

15 ascertaining a time associated with a currently-rendered audio sample;
16 selecting a data structure having a timestamp that is nearest the time; and
17 providing characterizing data associated with the selected data structure to a
18 component configured to provide the visualization.

19
20 27. (Original) The method of claim 23, wherein the characterizing data
21 comprises frequency data associated with each sample.

22
23 28. (Original) The method of claim 23, wherein said pre-processing
24 comprises using a Fast Fourier Transform to provide frequency data associated
25 with the samples.

1
2 29. (Previously Presented) A method of providing a visualization
3 comprising:

4 receiving multiple audio samples;

5 pre-processing the audio samples before they are rendered by a media
6 player renderer, the pre-processing comprising at least (1) using a Fast Fourier
7 Transform to derive frequency data from the samples, and (2) associating a
8 timestamp with each sample;

9 maintaining frequency data and a timestamp for each sample in a data
10 structure;

11 determining when an audio sample is being rendered by a media player
12 renderer by:

13 ascertaining a time associated with a currently-rendered sample; and

14 selecting a data structure having a timestamp that is nearest the time; and

15 providing frequency data associated with the selected data structure to a
16 component configured to use the frequency data to render the visualization.

17
18 30. (Original) One or more computer-readable media having computer-
19 readable instructions thereon which, when executed by a computer, cause the
20 computer to implement the method of claim 29.

21
22 31. (Previously Presented) A method of providing a visualization
23 comprising:
24
25

1 calling an audio sample pre-processor for characterizing data that is has
2 been derived from an associated audio sample that is currently being rendered by a
3 media player renderer;

4 calling the media player renderer for a time associated with a currently-
5 rendered audio sample;

6 using the time to select a data structure containing characterizing data
7 associated with the currently-rendered audio sample; and

8 providing the characterizing data to a component for rendering a
9 visualization.

10
11 32. (Original) The method of claim 31, wherein the characterizing data
12 comprises frequency data associated with the audio samples.

13
14 33. (Original) The method of claim 31, wherein the characterizing data
15 comprises frequency data associated with the audio samples and generated by pre-
16 processing the audio samples using a Fast Fourier Transform.

17
18 34. (Previously Presented) One or more computer-readable media
19 having computer-readable instructions thereon which, when executed by a
20 computer, cause the computer to:

21 pre-process audio samples using a Fast Fourier Transform to derive from
22 the audio samples frequency data, the audio samples being pre-processed before
23 they are rendered by a media player renderer;

24 query for frequency data that is associated with an audio sample that is
25 currently being rendered by the media player renderer;

1 query for a time associated with the currently-rendered audio sample;
2 use the time to select a data structure containing frequency data associated
3 with the currently-rendered audio sample; and
4 provide the frequency data to a component that uses the frequency data for
5 rendering a visualization.
6

7 35. (Previously Presented) A method of providing a visualization
8 comprising:

9 defining a frame rate at which visualization frames of a visualization are to
10 be rendered, the visualization frames being rendered from characterizing data that
11 is computed from audio samples and which is used to create the visualization;

12 setting a threshold associated with an amount of time that is to be spent
13 rendering a visualization frame;

14 monitoring the time associated with rendering individual visualization
15 frames;

16 determining whether a visualization frame rendering time exceeds the
17 threshold; and

18 providing an effective frame rate for rendering visualization frames that is
19 longer than the defined frame rate if the determined visualization frame rendering
20 time exceeds the threshold.
21

22 36. (Original) The method of claim 35, wherein said providing
23 comprises increasing a call interval associated with calls that are made to a
24 visualization-rendering component.
25

1 37. (Original) The method of claim 35 further comprising modifying the
2 effective frame rate so that the visualization frames are rendered at the defined
3 frame rate.

4
5 38. (Previously Presented) One or more computer-readable media
6 having computer-readable instructions thereon which, when executed by a
7 computer, cause the computer to:

8 set a threshold associated with an amount of time that is to be spent
9 rendering a visualization frame for a given frame rate, said visualization frame
10 being associated with a visualization that is rendered using characterizing data
11 computed from audio samples, which characterizing data is used to create the
12 visualization;

13 monitor the time associated with rendering individual visualization frames;

14 determine whether a visualization frame rendering time exceeds the
15 threshold; and

16 provide an effective frame rate for rendering the visualization that is longer
17 than the defined frame rate if the determined visualization frame rendering time
18 exceeds the threshold.